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**Social uplifting and modernization of suburban areas
with Urban Living Lab approach**
01-04-2013 – 30-03-2016

Report 2.1

Boundary conditions for successful Urban Living Labs

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1 EXECUTIVE SUMMARY

Urban Living Labs are development environments that integrate residents and other stakeholders to develop and test new solutions in their daily life. The users of the new services or solutions are active partners in the whole development process, which happens in the real urban context. Urban Living Labs utilize various co-design methods for understanding the needs, generating solution ideas, presenting ideas and evaluating the solutions in practice. In addition, citizen participation methods are used for participation in decision making and taking action.

This document presents the boundary conditions for successful Urban Living Lab implementation as well as methods that can be used in different stages of the development process. The report is targeted for municipalities, housing companies and researchers that aim at involving different stakeholders in different kinds of development projects in the urban context.

Before starting Urban Living Lab activities, several things have to be checked and planned. First of all, understanding the context is important. This understanding can be obtained by interviewing people from different backgrounds, observing the environment and familiarising oneself with earlier reports written about the area and its challenges. The next tasks is to define the goals for the development project based on the needs of different target groups, identify the residents and other stakeholders who should participate in the project and involve them in defining the aims, clarify the roles in the Urban Living Lab and define a transparent decision making process. Finally, the methods for the specific actions and the communication process should be planned.

Key success factors for Urban Living Labs are the early and continuous involvement of the affected people, clear goals and expectations, and acting instead of discussing. The methods must be adapted to the goals and participants. At its best, people can participate in the Urban Living Lab activities as a part of their other activities and see the effects of their participation shortly afterwards.

2 INTRODUCTION

2.1 Purpose and target group

The purpose of this document is to give practical suggestions for implementing Urban Living Labs for different purposes. Since all implementations are different depending for example on the context, topic, scope and participants, this document does not provide strict rules but rather examples that can be adapted and modified based on what is relevant in each Urban Living Lab implementation.

This report is targeted for municipalities, housing companies, researchers and research projects that aim at involving different stakeholders in the urban planning or other development projects in the urban context. It presents the boundary conditions for successful implementation of Urban Living Labs and gives an introduction to the methods that can be applied in Urban Living Labs.

2.2 Contributions of partners

The main author of this document is Pirjo Friedrich (VTT). Other contributors are Anja Karlsson (IVT) and Maija Federley (VTT) who have written and commented on some parts of the document. The document has been reviewed by Philip Thörn (IVL) and Hannele Ahvenniemi (VTT).

2.3 Methodology

In this document, general boundary conditions and methods for successful Urban Living Lab implementation are defined based on existing literature on citizen participation (Eliasson & Adelly 2007, Langlet 2011, Karlsson & Kildsgaard 2012, Ahvenniemi et al. 2013), Living Labs (Ståhlbröst & Holst 2013), Participatory Design (Bäck et al. 2013, Friedrich 2013) and consumer behaviour change (Heiskanen et al. 2013).

Additionally, municipality employees, active residents and participants in previous citizen participation projects were interviewed in Botkyrka and Riihimäki. The interviewees were asked about their previous experiences about citizen involvement in urban development in these specific areas. The interviews as well as reports of previous development projects were used for completing the list of the boundary conditions and for presenting some practical examples and suggestions for the implementation.

2.4 Project partners and funding

Project partners are: IVL Swedish Environmental Research institute, Botkyrka municipality, VTT Technical Research Centre of Finland and City of Riihimäki.

The project is funded by VINNOVA and Tekes through Joint Programming Initiative – Urban Europe.

3 BACKGROUND

3.1 Urban Living Labs

Urban Living Lab (ULL) is a forum for innovation that integrates the residents and other stakeholders to develop and test new ideas, systems and solutions in complex and real contexts (JPI 2013). The research and development are intertwined in a “living laboratory” – in the middle of people’s everyday living environment.

Living Lab methods have previously been used especially when developing ICT services (see e.g. Ståhlbröst & Holst 2013). In Europe, there are many regional Living Labs where the residents participate in the development of new technologies or services together with different stakeholders, such as companies, universities and municipalities¹.

Accordingly, Urban Living Lab is a regional forum for innovation and dialogue that focuses on solving challenges in the urban area. ULL includes the following features (JPI 2013, Ståhlbröst & Holst 2013):

- it integrates researchers, public organizations, residents and companies to co-develop new solutions
- the users of the developed services or solutions are active partners in the development work during the whole process
- the solutions will be developed and evaluated in the real use context
- besides producing the concrete solutions, the aim is to learn and exchange knowledge among the partners
- the activities are encouraging and rewarding for all participants

In practice, Urban Living Labs can make use of different co-design methods both face-to-face and online to involve all relevant stakeholders in the process of planning, designing, developing and evaluating new solutions.

3.2 Implementing an Urban Living Lab

The purpose of this document is to give practical hints for implementing Urban Living Labs for different purposes. Since all implementations are different depending for example on the context, topic, scope and participants, this document does not provide strict rules but rather examples that can be adapted and modified based on what is relevant in each Urban Living Lab implementation.

When creating and implementing an Urban Living Lab, the following step-by-step guide from the MECHAnisms toolkit² can be helpful (MECHAnisms 2010):

¹ The European Network of Living Labs (ENOLL) <http://www.openlivinglabs.eu/>

² <http://mechanisms.energychange.info/step/1-14>

- Understand
 - Step 1: Pinpoint your problem
 - Step 2: Get to know your target group
 - Step 3: Understand your context
 - Step 4: Is the time right? (timing of the project)
 - Step 5: Identify relevant stakeholders
- Plan & Do
 - Step 6: Define Goals and Manage External Demands
 - Step 7: Plan for and with your target group
 - Step 8: Select and adapt your instruments
 - Step 9: Test your ideas
 - Step 10: Engage your target group
 - Step 11: Motivate through feedback
- Evaluate & Learn
 - Step 12: Get feedback
 - Step 13: Evaluate and improve
 - Step 14: Develop a learning culture

Chapter 4 of this document presents the boundary conditions for successful ULL implementation in the form of checklists. They relate to the Understand and Plan phases (steps 1-7) as well as planning the Evaluation and Learning (steps 12-14). Chapter 5 then presents methods that can be used in the implementation (steps 8-11).

4 BOUNDARY CONDITIONS FOR URBAN LIVING LABS

When starting Urban Living Lab activities, the following elements must be taken into consideration. The elements are based on Bäck et al. (2012) and also visualized in Figure 1:

- Context,
- Goals and vision,
- People and motivation,
- Management and decision making, and
- Interaction process and methods.

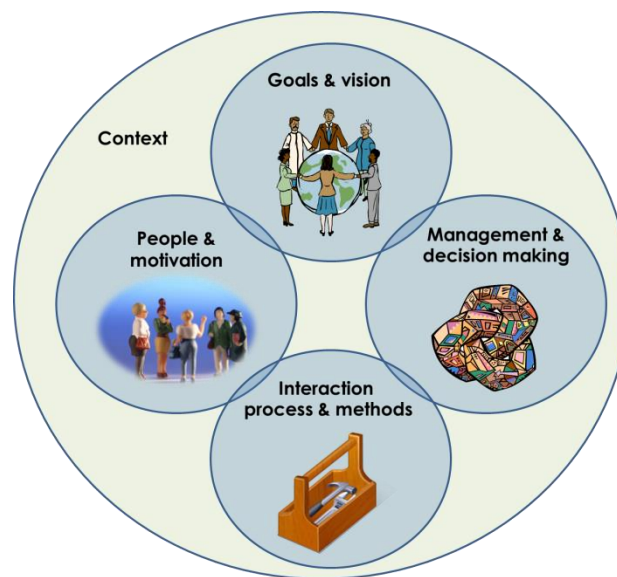


Figure 1 The elements of Urban Living Labs

In the following, the boundary conditions for Urban Living Labs will be presented as checklists for each of the elements above. The checklists consist of questions that should be answered before starting ULL activities and practical examples and recommendations for answering the questions. Within one ULL, there can be several separate actions with different goals, participants and methods. Therefore, the checklist questions should be answered for each action or project separately.

The different elements are related to each other, which means that the checklist does not present a timely order in which the issues should be decided. For example, defining the goals and visions is interlinked with the people and motivation. Because the goals must be discussed together with different stakeholders the stakeholders must be first identified. However, the general aim of the project is needed in order to choose the right stakeholders. Therefore, the process of defining the boundary conditions is iterative and flexible.

4.1 Context

Before starting an Urban Living Lab, it is necessary to understand the context where the living lab will be founded. The goals, stakeholders, processes and methods must be defined so that they fit to the specific area or environment where the activities are going to take place.

Since ULLs are by definition regional forums, they exist in some geographical area. The area can be also understood more broadly, for example as the surrounding environment or several discrete areas if the ULL is distributed in multiple places.

To familiarize yourself with the context:

- Read previous studies from the area.
- Interview people who know the area. Take into account different perspectives and find people who have knowledge about, e.g., residents and living in the area, city planning, social problems, citizen associations, business life, different age groups, hobbies and events.
- Spend time observing the area.

Table 1. Context

No,	Check list for context	Recommendations and examples
	Characteristics of the area	
1.1	Basic information about the area?	Statistics, e.g. number of inhabitants, age distribution, other demographic details etc.
1.2	What are the strengths and advantages of the area?	Things that can be valuable also when implementing the ULL. E.g. location, specific resident groups and activities, existing collaboration between stakeholders, details valued by the residents.
1.3	What kind of challenges is the area facing?	Especially challenges related to the current project (e.g. housing in need of renovation, social problems or image of the area). Think also about the challenges that are not directly related to the aims of the current project but may effect on it.
	Previous experiences	
1.4	What has been done previously in the area?	What kind of development projects have previously been carried out that are relevant for the current ULL? How have the residents and other stakeholders been involved earlier?
1.5	What are the main lessons learned from the previous projects?	Which methods for involving residents and other stakeholders have worked well and which have not? What kind of existing structures are there already that can be used? How do the previous projects effect on people's expectations on upcoming development projects and participation?

4.2 Goals and vision

It is important that both the project team and the stakeholders have common expectations for the actions utilizing Urban Living Labs. The common goal and vision are defined based on the individual goals of different stakeholders. In order to create value for people, it is important to understand their needs and motivations as well as how these needs can be met by a new solution. The residents and other stakeholders should participate in defining the shared vision so that they are committed to work towards it (Bäck et al. 2013).

Most probably the vision needs to be adjusted or reformulated during the process, when there is more information available about the possibilities and restrictions. However, it is important to involve different stakeholders also in the updating of goals and remind them continuously about the goals, since not all participants have been attending from the beginning.

Participatory process and transparent communication help in building up trust and commitment to project goals.

To find out the different expectations of all participants:

- Interview different stakeholders about their wishes related to the topic of the action.
- Organize workshops where residents, municipalities and other stakeholders can meet and discuss their goals.
- Respect everybody's opinions and different fields of expertise.

Table 2. Goals and vision

No.	Checklist for goals and vision	Recommendations and examples
	Starting point	
2.1	What is the problem we want to solve?	
2.2	Why do we want to create an Urban Living Lab?	E.g. what kind of values the work is based on (openness, democracy, efficiency)
2.3	What do we expect citizens to gain? (Value promise)	E.g. better environment to live in, support & enjoyable activities for their everyday lives and upgrading their own neighbourhood, possibilities to affect (but should not be false promises)
	Goals and expectations for the ULL actions	
2.4	Participating cities'/municipalities' goals	
2.5	Researchers' goals	E.g. using scientifically sound methods, involving people from all stakeholder groups, keeping the schedule, finding someone to take the project over after a research project
2.6	Residents' goals	Recognize the general goals of different resident groups, but also the individual wishes of different people. Even if everything cannot be implemented, be aware of the needs that guide the participants.
2.7	Other stakeholders' (e.g. energy and construction companies) goals	
	Defining the common goal	
2.8	How do we define the common goal?	The citizens must be involved already in defining the goals. Use e.g. workshops, idea forums and online/mobile voting for involving citizens in defining the goals. A smaller group, such as citizen parliament, should be involved also in the final decision making.
2.9	What is the common goal?	This is the result of the collaborative definition process.
2.10	How can the common goal be visualized?	A concrete image can help people to understand the goal in a similar way better than text.
2.11	What is the scope (and timeframe) of the project (action), taking into account the budget and other resources?	Evaluate, which goals can be reached within one project and what should be left for the future.

2.12	What is left out of the project focus?	Make clear from the start which expectations can be met during the process and which cannot.
2.13	How can we build trust and commitment to project goals?	Clear communication is important.
2.14	How do we stick with the goals?	Make sure all people know the goals when joining the project activities later on. Remind also the “old” members about the aims.
Evaluation of the actions		
2.15	Which measures/indicators will be used to evaluate how well the goals were met? What are the success criteria?	Involve different stakeholders in defining what would they regard as success. Define the indicators that can relate both to the actual outcome and the ULL approach.
2.16	How will the evaluation be done?	Define the times for evaluation and how to react to the evaluation results during the process, when things can still be changed. The participation ladder ³ is a good tool to use before and after the dialogue to decide on expectations and evaluation if the dialogue achieved the expectations.

4.3 People and motivation

Even if it could be ideal to involve all residents and other stakeholders in the development process, it is not often possible. Therefore it is important to identify those actors that should definitely participate in the process and plan how it will be possible for these actors to participate. The different stakeholders have different motivations for their participation, which must be recognized when planning the appropriate incentives. It is also useful to visualize the different stakeholders and their relevance for the current development project (see MECHAnisms tool⁴).

The importance of involving certain groups of people can be evaluated in the scales of relevance and activeness (see Figure 2). The most important group to reach are the ones for whom the planned changes are highly relevant and whose own life will be affected by the changes, but who are typically not active participants in civic society. It is important to develop and apply participation methods that will reach these people. The second most important group consists of stakeholders for whom the changes are highly relevant and who also are active participants in society. It is easier to start collaborating with this group, since they actively participate in the meetings and are highly interested in the topic. The stakeholders with low relevance to the topic at hand but active in stating their opinions (priority 3 in Figure 2) must be handled carefully. Their opinions should not be given too much weight in the overall process. The people with low relevance on the topic and low activeness to participate may also be taken into account in the process, but not a lot of resources should be spent with this group. (Langlet, 2011)

³ See e.g. Arnstein (1969), Eliasson and Aderly (2007, s. 36), Langlet (2011)

⁴ <http://mechanisms.energychange.info/tools/21>

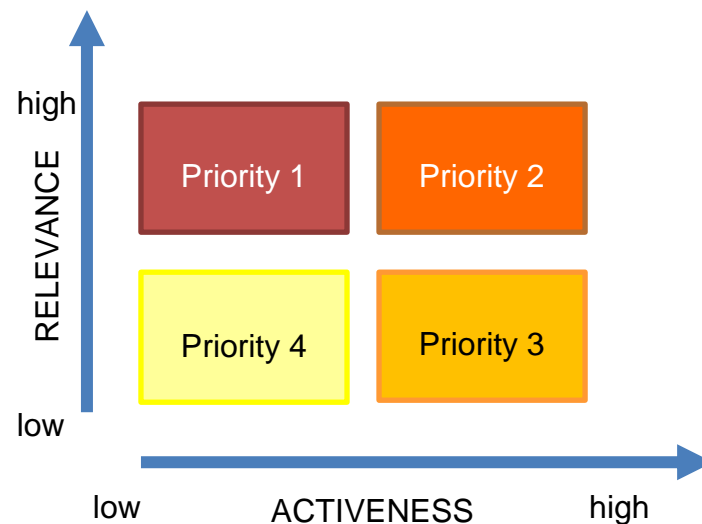


Figure 2 Priority of involving different stakeholders, based on Langlet (2011, p. 18)

Who should participate in the ULL project hence depends on each action. Based on previous experiences in dialogue processes, the framing and scope of the issue often affects the ideal number of participants. The broader the issue to be discussed, the smaller the group should be that is involved in the participatory process. When the issue becomes more focused, the number of participants can increase. For some projects, it is relevant that all residents and stakeholders have a possibility to participate or that representatives of all prioritized target groups are present. In other projects, the representativeness may not be as important but instead active participation of the people who are personally interested in the action is most important.

If certain demographic groups, resident associations and organization should be formally involved in the ULL project, it must be also considered who should represent each group. For example in NGOs, the key person's role is important (Ahvenniemi et al. 2013). However, in certain projects a single representative is not enough but as many people as possible should represent their group. Keep in mind that finding the relevant stakeholders and contacting them can be a time-consuming task (Karlsson and Kildsgaards 2012).

Special groups, such as children and youth, need special attention when planning their participation. For them, the experience of being involved can be even more important than for people who are used to participating in similar actions. Participation in the development project can also support children's personal development, enjoyment and the sense of well-being (Scottish Executive 2006). For the youth it is important to create an informal and exciting environment for participation and to allow them to take ownership of the actions (Brandtzæg et al. 2012).

To choose the participants:

- Identify first the groups of stakeholders. The stakeholders can initially be identified with help from people with local contacts and knowledge of the target area, e.g. within the development project group. Identified stakeholders in their turn can then provide input for additional relevant stakeholders, a so called snow-ball sampling method. In addition, maps over the area in question can be used to identify potential stakeholders (Karlsson and Kildsgaards 2012). For a helpful tool to identify stakeholders, see Langlet (2011, p. 28) or Figure 2 above.

- To find out the relevant people within the stakeholder groups, use the yellow pages, stakeholder websites (e.g. companies, schools, organizations) or similar to find contact information of selected people. E-mail addresses, addresses and phone numbers are of use in order to proceed, depending on the channel of contact (Karlsson and Kildsgaards 2012).

Table 3. People and motivation

Check list for people and motivation		Recommendations and examples
	Stakeholder identification	
3.1	What kinds of people live in the area? What kind of demographical groups and subgroups can be identified?	E.g. elderly people, unemployed youth, young families, international students etc.
3.2	What kind of formal resident groups exist in the area?	E.g. citizen associations, resident clubs, youth councils, residents in certain buildings etc.
3.3	Which other stakeholders besides residents are important in the area?	E.g. local decision makers, companies, schools, student or pupil councils, homes for the elderly, commercial facilities, local sport clubs, etc.
3.4	Which groups of residents and other stakeholders should participate in the project?	Which stakeholders and resident groups are prioritized (see Figure 2)? Why?
	Understanding the resident groups	
3.5	What are the characteristics of the identified resident groups?	If there is not enough information about the residents, consider doing a pre-study to understand them better.
3.6	Which demographic groups, associations and individuals are already active and participate?	Note that a certain demographic group or association may consist of both active and passive individuals. Utilize the active ones and their contacts, but make sure that the same people don't take over the agenda (see Priority 3 in Figure 2). Before AND after starting the project, it is important to evaluate who has actually participated and what we have learned from these participants, as well as if these participants really are the most relevant.
3.7	Which residents/groups are passive?	E.g. women, immigrants, unemployed single mothers, children
3.8	What are the barriers for the participation of the passive groups?	E.g. language, lack of interest and "self-efficacy", difficult to reach with information
3.9	How could the more passive groups be reached (especially the ones, whom the topics would be highly relevant, Priority 1 in Figure 1)?	It easier to be invited to than invite certain groups, e.g. let different organizations, associations or groups invite the responsible project representative to their meeting places or premises, for example associations for different women-groups. Contact the associations who work with the groups at risk of being "left out". Children could participate as a part of school classes / projects.

	Choosing the participants	
3.10	Should the participants represent certain target groups or do they participate as individuals?	How important is representativeness of the residents to the project (maximal variation and representative selection)? The closer to decision-making it is, the more important it is to have a representative group of participants for that issue (local democracy).
3.11	Who should to participate? How many people can participate in the project?	
3.12	Who possesses information or expertise that is relevant and valuable for the planned actions?	
3.13	What is required from the participants (devices, time, background knowledge, etc.)?	Different participants have different resources in order to participate, e.g. time, money, internet access, affecting how they can participate.
3.14	How will the participants be invited? Which channels will be used?	E.g. letters to home, big meetings, inviting people on public places (e.g. volunteers select every 10th person and ask if they want to participate), contacts via social workers and other groups (women group, immigrant group); workshops/discussions in combination with other events. To reach the general public, use advertisements and invitations, in the local media, at the local libraries and meeting places, or through the municipality and social media (Karlsson and Kildsgaards 2012).
	Motivations and rewards	
3.15	Why would people participate? What are their needs? What motivates them? What would make them take an active role as innovators and design partners?	E.g. clear expectations of the process, feeling that they can have influence and effect on the issue discussed and that their opinions are taken seriously. In general, it is easier to motivate people to take part if they can follow the whole process and see how their participation affects the project between the times they participate. Feedback, transparency and clear open communication is often very important to keep motivation of participants. Residents are most motivated by small-scale and close-by issues that are well defined and focused.
3.16	What kind of rewards do the participants expect, if any?	Is it possible to give monetary rewards and how would they influence on who participates and why? In some cases, the rewards can also be given e.g. to resident associations, but many people expect also personal benefit.

4.4 Management and decision making

Even if the Urban Living Lab aims at collaboration of different parties and all affected actors should be part of decision making, the process must however be led and managed by someone (Bäck et al. 2013). It is important that the roles of different stakeholders are clear to all participants. The overall process with timescale, management and decision making

procedures should be clarified in the beginning of each action, and communicated transparently and frequently enough to all participants.

Table 4. Management and decision making

Check list for management and decision making		Recommendations and examples
	Management	
4.1	Who is the owner of the Urban Living Lab?	Name a responsible organisation.
4.2	Who leads the Urban Living Lab? Who is the driving individual person to contact?	A Living Lab can be managed by e.g. consultants, municipalities, companies or researchers. In a municipality, both civil servant and politicians can initiate participatory processes. On the whole, the interest is very high among politicians. However, the civil servants usually have the most experience in carrying out the dialogues, especially the urban planning department.
4.3	What are the available budget and resources for the actions?	
	Decision making during the action	
4.4	Who makes the decisions, how and when?	The power structures must be transparent to the participants. Clarify the roles of all participants (municipality, politicians, etc.)
4.5	Who defines the topic and scope of the ULL actions?	What kind of possibilities do other parties have to influence on the decisions?
4.6	How do we react to changing aims during the action? How do we refine the goals?	Clear procedures for decision making and communication. Decide in the beginning who is responsible for making the decisions.
4.7	Who defines the methods and schedule of participation?	
4.8	Who is responsible for implementing the actions and solutions that are collaboratively planned in the ULL?	What is the role of the municipality officials, politicians, companies etc.? How does citizen participation link to the municipality decision-making processes, if they are relevant for the action?
	Citizen participation	
4.9	Which issues and in which ways can the residents influence?	E.g. give feedback, answer questions, participate in the development processes, influence political decisions, vote, or participate in the decision making. To take the step from participation or involvement to influence, domain experts' and users' needs and ideas should be clearly traceable in concepts, prototypes, and the finished product.
4.10	In which phases of the development process do residents and other stakeholders participate?	Planning the actions, defining the current challenges, generating solution ideas, evaluating different solutions or concepts, testing different versions of the solutions. In an ULL residents and other stakeholders should be integrated in the whole process, i.e. invited already in early stages to participate.

	Documentation and learning	
4.11	How do we document the dialogue/ participation process? Who is responsible for it?	
4.12	How do we collect feedback from the participants about the process?	
4.13	How do we give feedback to participants (about the implemented actions, even after the project ends)?	
4.14	How do we ensure collective learning and reflection among all stakeholders?	E.g. regular evaluation of the project success by different stakeholders (round table discussions, feedback forms).
4.15	How could citizen participation become a permanent way of working?	
4.16	How can the generated knowledge from Urban Living Lab operations be transformed into models, methods and theories?	If the goal is to make the findings as a part of scientific literature.

4.5 Interaction process and methods

When choosing the specific methods for interaction and communication, the characteristics of the participants, area and current topic must be taken into account. The methods should enable participation of different residents and stakeholders and make co-creation process rewarding and efficient for all participants. In the beginning of the process, the persons responsible for the methods should present them clearly to the participants, so that it is clear for them, how they can participate, what is expected from them and what they are able to influence on.

Both face-to-face and online methods should be used so that all interested and relevant people are able to participate. A good way to attract the general public is to have the dialogues on site (Karlsson and Kildsgaards 2012) and to utilize the existing infrastructure at the area, such as public meeting rooms (Ahvenniemi & Mäkeläinen 2013).

The special needs of each stakeholder group should be taken into account. For example, when working with children, the approaches can be fun and interactive, using artwork, drama, music, video, photography, peer research, campaigning, fund raising, developing resources, texting and electronic voting systems etc. (Scottish Executive 2006).

Frequent and transparent communication about the project and its achievements is important for all participants, but especially for children. “Accurate information should be provided at regular intervals, including an honest assessment of the scope for change and feedback on action, highlighting how views have been taken into account”. (Scottish Executive 2006)

Table 5. Interaction process and methods

Check list for interaction process and methods		Recommendations and examples
Interaction process		
5.1	What is the time plan of the participation process?	
5.2	What resources are required and who can supply them?	
5.3	What kinds of preparations are necessary?	
5.4	How do we set and communicate the deadlines of participation?	It must be clear to residents and other stakeholders, when and what they can influence.
Methods		
5.5	Which methods can be used for which resident groups and stakeholders?	Choose methods that are suitable for each group and that can lead to the desired goals. Choose methods and environments that create an atmosphere where everyone can express their opinion.
5.6	What are the times and places where relevant residents and other stakeholders can best participate?	Consider both physical and virtual places, especially the ones that already exist at the area. Dialogues can also be held several days in a row and on different times of the day making sure as many as possible have the possibility to attend (Karlsson and Kildsgaards, 2012).
5.7	How to bring the development to people's everyday environment?	
5.8	How could online tools and ICT be used?	Audio and video should be used to make the content interesting and understandable for all
5.9	Is there need for different levels of openness between stakeholders? How to support it with different ways and places of participation?	Are some methods and forums open for everyone and others limited to certain participants?
5.10	Are there any ethical considerations that need to be handled?	In general, false or unrealistic promises should not be given to any participants. Children's parents must be informed about their participation. If any photos or videos will be taken, parents need to give permission for that.
Communication		
5.11	What is our communication strategy?	What needs to be communicated during the process and to whom? Adapt the level of information, language, and vocabulary to the general public and their expected comprehension of the subject (Karlsson and Kildsgaards, 2012). Use different media, such as physical meetings, newspapers, flyers, posters, direct mail, radio, local TV, internet channels
5.12	What is the main access point to all ULL relevant information?	Present the whole process transparently e.g. on a ULL homepage
5.13	What kind of information do the participants need throughout the project?	E.g. whom to contact and how, how to participate, where, when and why, what happens at the moment and what are the results

4.6 Summary: Key success factors

Context, goals and vision

- To understand the context of the urban area in focus for the Urban Living Lab is a pre-condition for a successful Urban Living Lab.
- “To stand next to each other and look at a common goal” - it is important to have clear common expectations and goals for the project among all participants. Be very open with what the involved residents and other stakeholders can influence and what can be done within the time, budget and scope of the project.

People and motivation

- Spend sufficient time to identify and find relevant residents and other stakeholders important for the project; put extra focus on traditionally passive groups highly affected by the project (see Figure 2). It is also important to understand the needs and motivations of participants.
- Listen actively and be open to the opinions of all participants. Take the viewpoints of different stakeholders into account.
- Feedback, transparency as well as a clear and open communication is often very important to keep motivation of participants and to ensure a successful Urban Living Lab. Participants should see concrete results that they have been able to influence.

Management and decision making

- Involve the residents and other stakeholders as early as possible in the process. A key feature of a successful Urban Living Lab is that the participants are active partners during the whole process – from planning and designing to developing, implementing and evaluating.
- Transparent power structures are significant – clarify the roles of all participating residents and other stakeholders as well as procedures for decision-making.

Interaction process and methods

- Choose and adapt the specific methods for interaction and channels for communication based on the different participants, the area and project goals.
- It is important to consider which methods create a possibility and atmosphere for all relevant residents and other stakeholders to participate and express their opinion.
- Adapt the level of information, language, and vocabulary to the different involved participants and their expected comprehension of the issue.

5 INTRODUCTION TO URBAN LIVING LAB METHODS

Urban Living Labs do not provide any specific methodology, but apply methods from user-centred design, participatory design and citizen participation. The methods that should be used depend on the characteristics of the ULL, participants, goals and the state of the development process. In this chapter, a few methods are presented as examples of relevant approaches based on their purpose. Some of the methods, such as workshops, can be applied for multiple purposes in different phases of the development process. Some methods require face-to-face meetings, whereas others can be used on the Web.

5.1 Understanding people and issues

In the beginning of the development process, interviews, focus groups and diaries help to create understanding of the people and the issues that are to be developed.

Interviews can be carried out either by phone or face-to-face. Standardized, semi open-ended interviews enable the same open-ended questions to be asked to all interviewees but with possibilities of individual follow-up questions in order to bring out more comprehensive answers (Karlsson and Kildsgaards 2012).

Focus groups are structured discussion groups led by a facilitator. Participants are divided into groups with 4-5 people with regard to competence, stakeholder type and gender to get as broad representation as possible in each group. Each group has a moderator and a note taker. The questions should be distributed to the participants good in advance. As a complement, a rotating table method can also be used for the discussions i.e. each table representing a dialogue topic and at regular intervals, the groups change tables. Also consider to have several focus group meetings with different people to increase representativeness. (Karlsson and Kildsgaards 2012, Wibeck 2010).

Diaries and **cultural probes** can be used to gather authentic input of the citizens' everyday life in situations where it is difficult to observe the people directly (Gaver et al. 1999). Diaries can be either written on paper book or e.g. via a mobile device or a blog (Friedrich 2013). The citizens are asked to tell stories and share observations as text and images around a certain topic, such as everyday life in the area or future dreams. Cultural probes are a specific diary method consisting of inspirational material packages and tasks (Jääskö and Mattelmäki 2003).

5.2 Generating ideas

Different stakeholders can be involved in generating ideas for new solutions using workshops, walkshops, brainstorming and idea competitions. These methods can also be applied in other stages of the process, e.g. during evaluation of developed solutions.

Workshops can be used for different purposes where stakeholders' input is required. Adapt the workshop topic and working methods to the targeted participants. For example, to reach children and get their input, open discussions and/or creative work, such as drawing or modelling, can be used. For architects, focused groups could be used with creative elements to develop creative solutions during discussions. A workshop can also be combined with a field study or take place within regular activities of the target group. The background information provided, length and type of workshop should be adjusted to each specific stakeholder group (Karlsson and Kildsgaards 2012). Workshops can be implemented, e.g., using rotation table or open space techniques presented below. Workshops can also be arranged online, e.g. via Facebook where the participants are guided to answer certain topics weekly (Reyes and Finken 2012).

Rotating table or **dialogue café** is a flexible workshop technique in which each table represents a topic and at regular intervals, the groups change tables. Each group is guided by a moderator who is also responsible for documenting the discussions. It is good to discuss ideas and suggestions, or how something should develop. At the end a round table discussion can be held including evaluation of the method. (Langlet 2011)

Open Space is a self-organizing meeting where the agenda is defined by participants based on an overall topic. It is a good method to start a larger project or dialogue, where the participants are involved in setting the agenda and deciding the questions under a certain topic. Open Space is good for ideas and brainstorming. (See e.g. http://en.wikipedia.org/wiki/Open-space_technology)

Walkshop is a workshop that is implemented by walking in the context and doing pre-formulated tasks (Korn and Zander 2010, Spier 2013). One person is a facilitator and another one takes notes, e.g. by recording video. The participants can also be asked to record their findings themselves, e.g. using a camera. After the walkshop, the participants still gather together to sum up their experiences, findings and ideas.

Brainstorming can be used for generating a lot of new ideas in a short time. One easy to use idea generation technique is 6-3-5 brainwriting. The participants are divided into groups of 6 people. Each participant should write down 3 ideas on a paper in 5 minutes. After that, the papers are rotated in the group for next 5 minutes so that everyone adds 3 new ideas to the paper. Other participants' ideas should be used as inspiration for more ideas. 6 rounds of ideation result with 108 ideas. (See e.g. http://en.wikipedia.org/wiki/6-3-5_Brainwriting)

Idea competitions are typically online campaigns during which anyone can suggest ideas to the given topic. The organizer of the competition defines the evaluation criteria for ideas and evaluates them after the competition has ended. The initiators of the best ideas may get either a reward or funding to implement their idea. Idea competition can be integrated to other methods, for example by developing the best ideas further in an innovation workshop with selected participants (Arnold & Barth 2012).

5.3 Presenting and evaluating solutions

The generated ideas and further developed solutions can be concretized in various ways so that it is easier for residents and other stakeholders to understand them in a similar way and evaluate their suitability.

Scenarios are textual stories of possible futures. They can be either text or visual narratives. Plus and minus scenarios can be used to illustrate the possible positive and negative effects of the planned changes in an exaggerated form (Bødker 2000).

Storyboards tell a visual story of a planned service or solution, e.g. in a form of a comic.

Films are a further developed form of storyboards. They can be used especially for evaluating solutions online.

Mock-ups are light weight prototypes that illustrate certain aspects of the solution as a tangible object. They are mostly used when developing tangible products, but they can be also used for concretizing specific details of a service.

Field tests are used to test new services or solutions in the real world context in people's everyday life. The test participants get access to the new solution for a certain period of time, during which they report about their experiences. The feedback can be collected afterwards with interviews, questionnaires or focus group discussions. Another option is that the test participants report their experiences and new ideas during the test period in an online discussion in which the developers also participate (Friedrich 2013).

5.4 Participating in decision making

Citizen participation in decision making can be organized using dialogue meetings and forums, user panels or online tools, such as chat and e-voting.

Dialogue meetings are moderated meetings around a certain topic. They can be *targeted* to specific stakeholders or *open* to anyone to join to get a broader set of opinions and input. Dialogue meetings can also be organized with existing groups or associations by visiting their regular meetings. It is important to ensure that the aim of the meeting and expectations for the dialogue are clear to all involved participants. The discussion topics should be few and focused. The meeting is preferably moderated by relevant person with much information about the topic. It is important to inform about the meeting well in advance and especially target groups that usually do not participate or are more affected by the discussed issue. Time and place needs to be adjusted to the participants needs. Prepare maps of the area for each group to support the discussions and identification of specific areas to be addressed by the adaptation measures. Adapt the language and vocabulary to the stakeholders and their comprehension of the subject. (Karlsson and Kildsgaards 2012)

Dialogue forum may consist of more than one focused dialogue meetings, where the results from the first meeting and its effect on the project planning can be used as an input during following focused dialogues. It is important to provide the participants with feedback from the meeting such as meeting minutes, information about next step, etc. while they are often interested in the results of their input. (Karlsson and Kildsgaards 2012) Dialogue forum can also be arranged *online*. Citizens can leave their idea in a form of a short video clip or image and text. The municipality or some relevant person replies with an own video clip. The online dialogue forum can also consist of questionnaires, discussion, idea competitions, voting and chat sessions.

User panels are regular meetings with a selected group of participants who gather together to give input and feedback on a certain service or other issue that they are familiar with. Panels can also be organized using ICT tools so that the municipality or project leader sends a question via SMS or e-mail, to which citizens tend to reply quickly (Langlet 2011). Geo-panel is another variation in which citizens place their wishes on an online map or in relation to well-defined questions, such as “Where is a safe/unsafe place?” and “Where should we build a new playground?” (Langlet 2011).

Chat tools can be used for real time on online discussion after a face-to-face meeting or instead of face-to-face-meeting (Langlet 2011).

E-voting can be used as a part of a democratic process to get opinions of a wide group of people quickly.

5.5 Taking action

Citizens can be given the leadership of concrete actions in their living environment, using e.g. citizen parliament, mini pilots or change agent groups.

Citizen parliament can be a forum where the citizens take action themselves. The parliament can have formally elected representatives from different citizen and stakeholder groups or be a voluntary-based group of active citizens that meet regularly to discuss and plan actions considering their own local environment. It is recommended that the citizens have the leadership in the parliament (Eliasson and Adelly 2007).

Mini pilots are citizen driven projects sponsored by the municipality. It can be, e.g. a new service, product or event that is planned together with at least 2 or 3 actors (children, youth,

adults, seniors, associations or companies)⁵. Anyone can apply for a mini pilot and municipality gives for example 500 euro for the implementation of the pilot. The initiator must report the experiences after implementation.

Change agents are voluntary citizens who inform and activate their peers to change their behaviour. There are good examples for example about energy experts⁶. They are tenants or residents who have been trained to be active in energy issues in the building where they live. They monitor the energy use in the house, provide advice for other residents in energy issues and act as contact persons between residents and the housing company.

5.6 Summary of the methods

Table 6 presents a summary of methods that can be applied in Urban Living Labs for different purposes. Most of the methods can be applied both in real world (face-to-face) and online.

Table 6. Participatory methods grouped based on their purpose and art of implementation.

Purpose	Method	Face-to-face	Online
Understanding people and issues	Interviews	x	x
	Observation	x	
	Questionnaires	x	x
	Focus groups	x	x
	Diaries	x	x
	Cultural probes	x	x
Generating ideas	Workshops	x	x
	Walkshop	x	
	Brainstorming	x	x
	Idea competition		x
Presenting and evaluating solutions	Scenarios	x	x
	Storyboards	x	x
	Films	x	x
	Mock-ups	x	
	Field test	x	
Participating in decision making	Dialogue meetings / forum	x	x
	Citizen panel	x	x
	Chat		x
	Voting	x	x
Taking action	Citizen parliament	x	
	Mini pilots	x	
	Change agents	x	

⁵ <http://www.inno-vointi.fi/fi/esimerkkeja/innovatiivisuuden-edistamisesta/kuntalainen-kehittaa>

⁶ <http://mechanisms.energychange.info/case-studies/10>

If possible, online focus groups, workshops, panels etc. should be arranged in the online forums that the target groups already use instead of introducing new tools that need to be advertised to the participants (Brandtzæg et al. 2012). Especially when collaborating with youth in social media, a bottom-up approach is needed. The participants should have the ownership to the project, create content and express themselves (Brandtzæg et al. 2012).

5.7 Further sources for methods

Other applicable methods can be found in several online sources from different fields. Here are some publicly available examples of method lists and toolkits:

Citizen democracy

- http://www.skl.se/vi_arbetar_med/demokrati/medborgardialog/medborgardialogverktyg (in Swedish)
- <http://english.skl.se/activities/dialogue-with-citizens/it-solutions-for-citizens-dialogues>

Service design and development

- <http://www.servicedesigntools.org/>
- <http://multisensorisuus.fi/tyokalut> (in Finnish only)

Consumer behaviour change (related to energy)

- MECHAnisms toolkit: <http://mechanisms.energychange.info/tools>

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